

REMARKS

This is intended as a full and complete response to the Office Action dated April 28, 2004, having a shortened statutory period for response set to expire on July 28, 2004. Please reconsider the claims pending in the application for reasons discussed below.

Regarding the Final Office Action dated February 6, 2004, Applicant submitted a proposed response to the Examiner for an interview. In the interview with Applicant's representative on February 22, 2004, the Examiner stated that she could not enter the response because it added new claims without canceling a corresponding number of rejected claims. However, the Examiner withdrew the final rejections, reopened prosecution, and subsequently issued the Office Action dated April 28, 2004. Applicant would like to thank the Examiner for taking the time to conduct an interview with Applicant's representative.

Claims 1-30 remain pending in the application after entry of this response. Claims 16-19 are rejected and claims 6 and 11-13 are indicated to be allowable by the Examiner. Claims 1, 3, 16-19 have been amended and new claims 20-30 have been added. No new matter has been added by the amendments or new claims. Reconsideration of the rejected claims is requested for reasons presented below.

In the specification, the paragraphs [0001], [0016], and [0022] have been amended to correct informalities. No new matter has been added by the amendments.

Claims 16 and 19 have been objected to because of various informalities. Claims 16 and 19 have been amended to correct the informalities. Withdrawal of the objection is respectfully requested.

Claims 16-19 stand rejected under 35 USC 102(b) as being anticipated by *Walker* (U.S. Patent No. 5,535,835). Applicant respectfully traverses the rejection.

Regarding claims 16 and 19, *Walker* does not teach, suggest, or disclose "a tool ... configured to change the direction of drilling in a substantially infinitely variable manner in response to a sustained change in flow rate of a drilling fluid" as recited in claim 16 or a method, "wherein the tool changes the direction of drilling from the first direction to any desired second direction in response to the increase in flow rate" as

recited in claim 19. *Walker's* device is capable of changing the direction of drilling from a straight direction to a curved direction, the curvature of which is fixed by the offsets of stabilizers 17 and 18. (See *Walker*, col. 3, lines 26-36.) Since the curvature is fixed, it is not substantially infinitely variable. For further control, the operator of *Walker's* device must use the rotary table to turn the entire drill string. (See *Walker*, col. 4, lines 61-63.) If, with the additional control, the variation can said to be substantially infinitely variable, it is not in response to a change in flow rate of the drilling fluid. Therefore, claims 16 and 19 are patentable over *Walker*. New claims 24-30 are also patentable over *Walker* since they depend from claim 16.

Regarding claim 17, claim 17 is drafted in a "means plus function" format pursuant to 35 USC §112, para. 6. As such, the claim incorporates structure from the specification (and equivalents thereof) which is clearly described in para. [0004] of the Application:

"Said means is provided in the through passage of the tool, and comprises a valve arranged to choke the passage, so that the tool can be activated for the rotation, a piston adapted for providing the rotation after the through passage has been choked, and sets of co-operating guides adapted for forced guiding of the rotation. The guides are formed in the wall of the through passage, or in the opposite wall of the piston."

Walker does not teach, suggest, or disclose "a piston adapted for providing the rotation ... and sets of co-operating guides adapted for forced guiding of the rotation" as incorporated by claim 17. The only rotation provided by *Walker's* device is that of rotor 34 which is not identical or equivalent to the guided piston. Therefore, claim 17 is patentable over *Walker*. Claims 18 is also patentable over *Walker* since it depends from claim 17.

Regarding new claims 20-23, they are patentable over *Walker* since they depend from allowable claim 1.

Claims 16-19 stand rejected under 35 USC 102(b) as being anticipated by *Dorel* (U.S. Patent No. 6,158,529). In the rejection, the Examiner stated: "that moves the tool in response to mud pulses in the drilling fluid. Mud pulses are the result of a sudden change in flow rate of drilling fluid ..."

Regarding claim 16, Applicant has amended the claim to overcome the rejection. Regarding claim 19, Applicant respectfully traverses the rejection. *Dorel* does not teach, suggest, or disclose “a tool ... configured to change the direction of drilling ... in response to a *sustained* change in flow rate of a drilling fluid” as recited in claim 16 or a method, comprising “decreasing the flow rate flow rate of drilling fluid *when the second direction is reached*” as recited in claim 19. As the Examiner observed, a mud pulse is an instantaneous change. It is not a sustained change. Nor does *Dorel*'s device change direction within the instantaneous period of time of the mud pulse. Therefore, claims 16 and 19 are patentable over *Dorel*. New claims 24-30 are also patentable over *Dorel* since they depend from claim 16.

Regarding claim 17, *Dorel* does not teach, suggest, or disclose “a piston adapted for providing the rotation ... and sets of co-operating guides adapted for forced guiding of the rotation” as incorporated by claim 17. The pistons of *Dorel*'s device provide simple linear motion. Therefore, claim 17 is patentable over *Dorel*. Claims 18 is also patentable over *Dorel* since it depends from claim 17.

Regarding new claims 20-23, they are patentable over *Dorel* since they depend from allowable claim 1.

Claims 1-5, 7-10, 14, and 15 are objected to as being dependent upon a rejected base claim, but would be allowable if rewritten in independent form. Claim 1 has been rewritten in independent form. Withdrawal of the objection is respectfully requested.

In conclusion, the references cited by the Examiner, alone or in combination, do not teach, show, or suggest the invention as claimed. Having addressed all issues set out in the Office Action, Applicant respectfully submits that the claims are in condition for allowance and respectfully request that the claims be allowed.

Respectfully submitted,



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